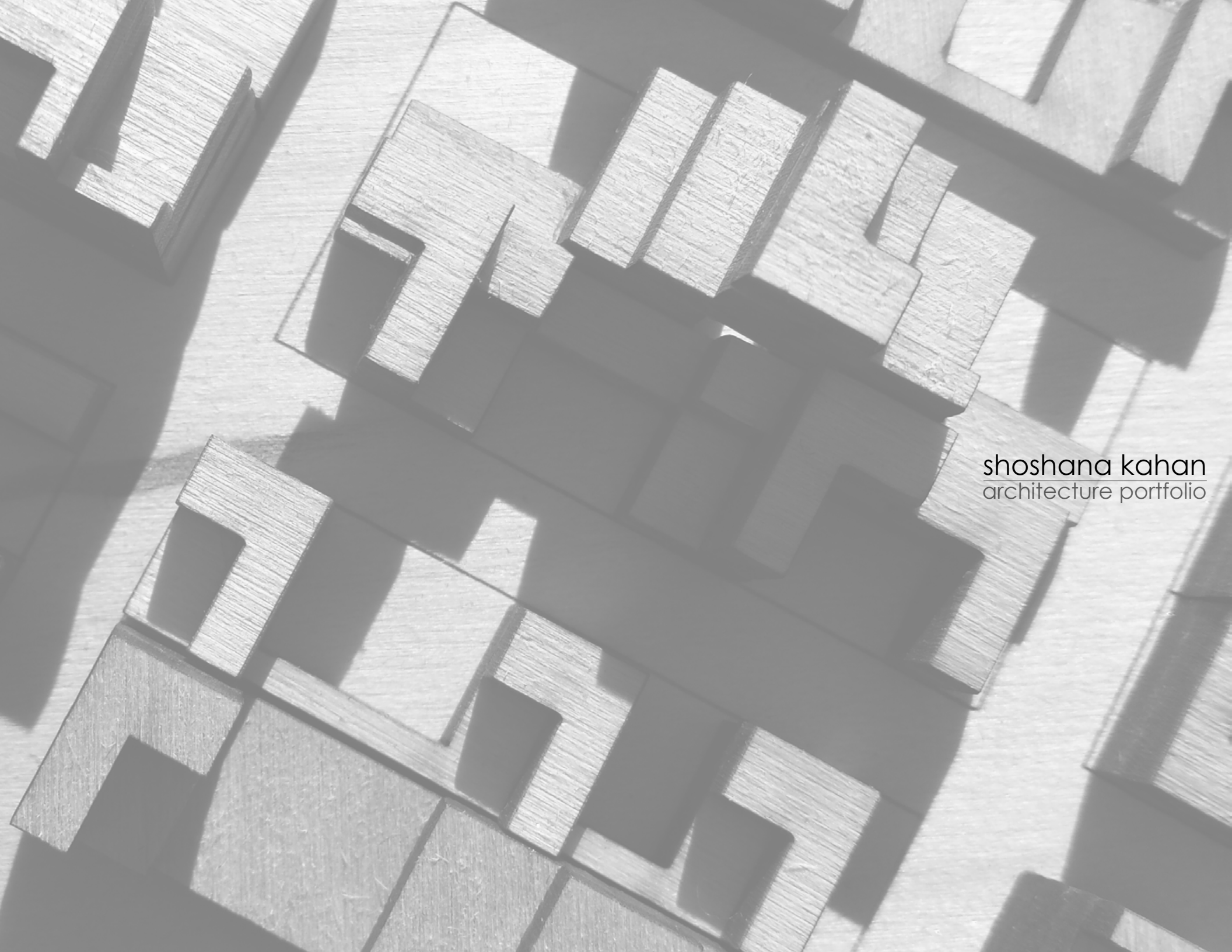
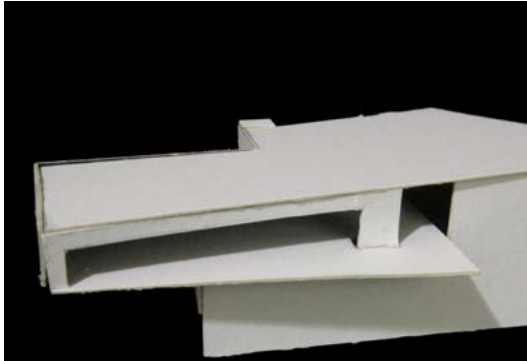




shoshana kahan
architecture portfolio



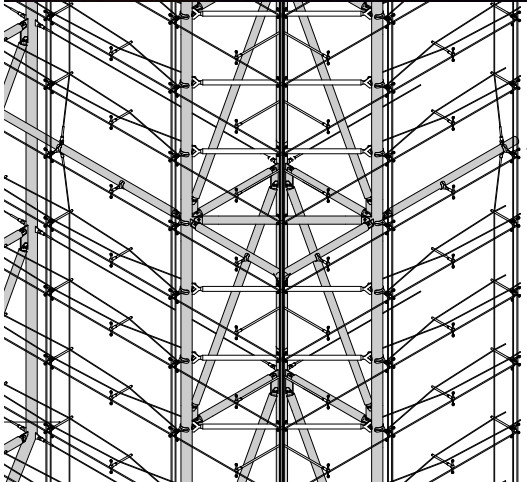
GYMNASIUM

01



BRONX HOUSING YARDS

02



ROSE CENTER FOR EARTH AND SPACE | TECHNICAL ANALYSIS

03

The gymnasium's site, a superblock bounded by West 100th Street, Columbus Avenue, West 104th Street, and Amsterdam Avenue, currently houses a NYCHA housing project: Frederick Douglass Houses. The gymnasium attempts to provide an environment that guides visitors into and throughout the building, providing an asset to the community.

The building form is derived from the shifting of masses, evident in plan. The shifting strategically allows for maximum circulation between programs and provides a coiling movement throughout the entire building.

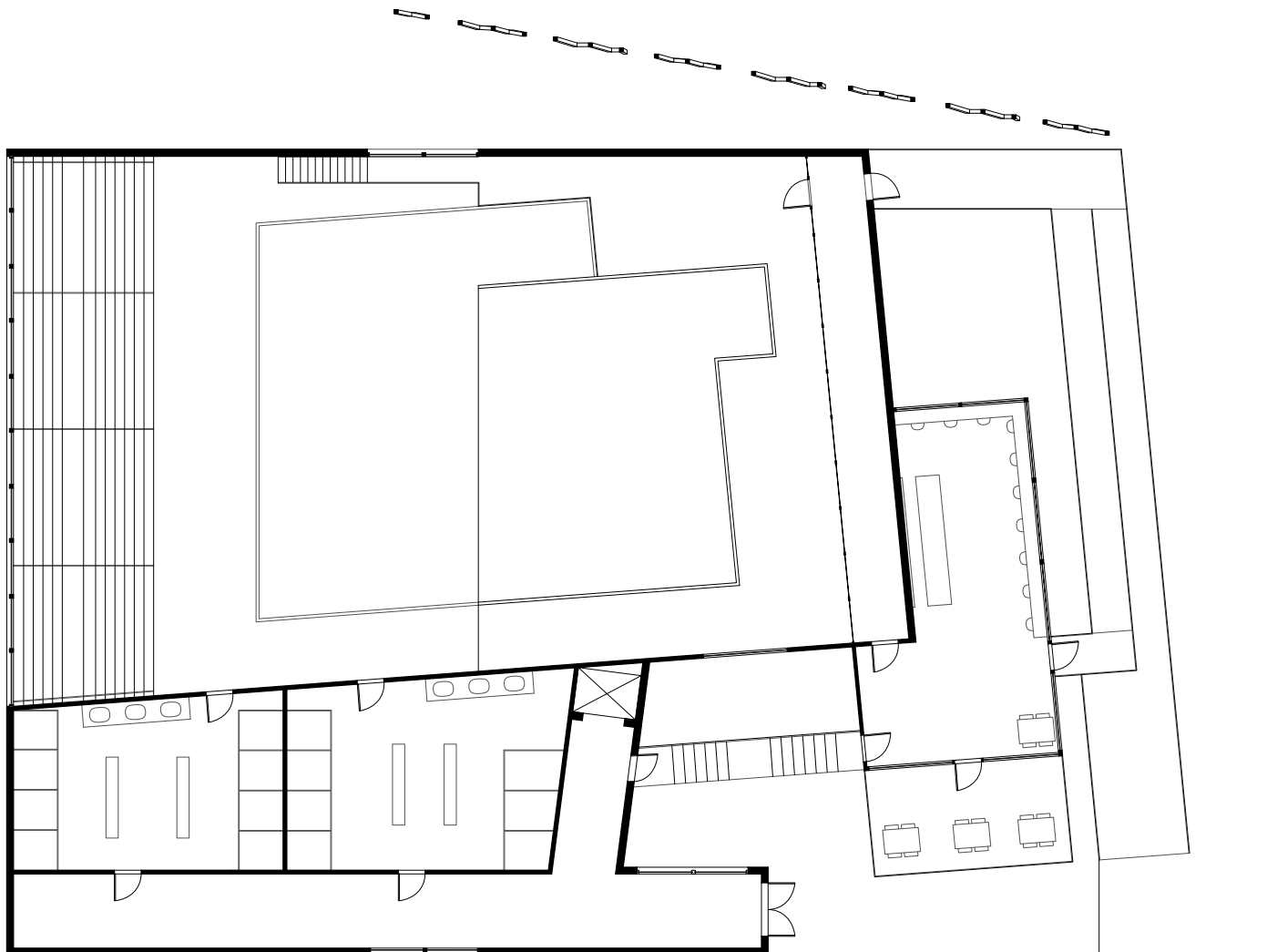
The gymnasium is a programmatic combination that “shares” moments between public and private, natatorium and auditorium, spectator and spectacle. These shared moments can be seen in the interactions between the pool seating area and the auditorium loft. In this moment, the auditorium spills out of its private shell, hovering above the pool and engaging with the spectators below. This sharing can be seen in the juxtaposition of the cafe and natatorium. One may enter the cafe from the street through a series of ramps and continue on to the natatorium through a glass in-between space. This corridor is no longer the commercial realm of a cafe frequented by people in street clothes, but has not yet fully transformed into another program. Separated by a thin layer of glass, the visitor traverses between two worlds, equally a part of both yet not fully part of either.

There is also a more subtle sharing which occurs through the coiling motion of circulation. This is seen in plan as the path through the pool becomes the shifted path through the auditorium, which becomes the path through the cafe. The path from the exterior ramp brings this theme of circulation out of the interior realm and into its shared environment.

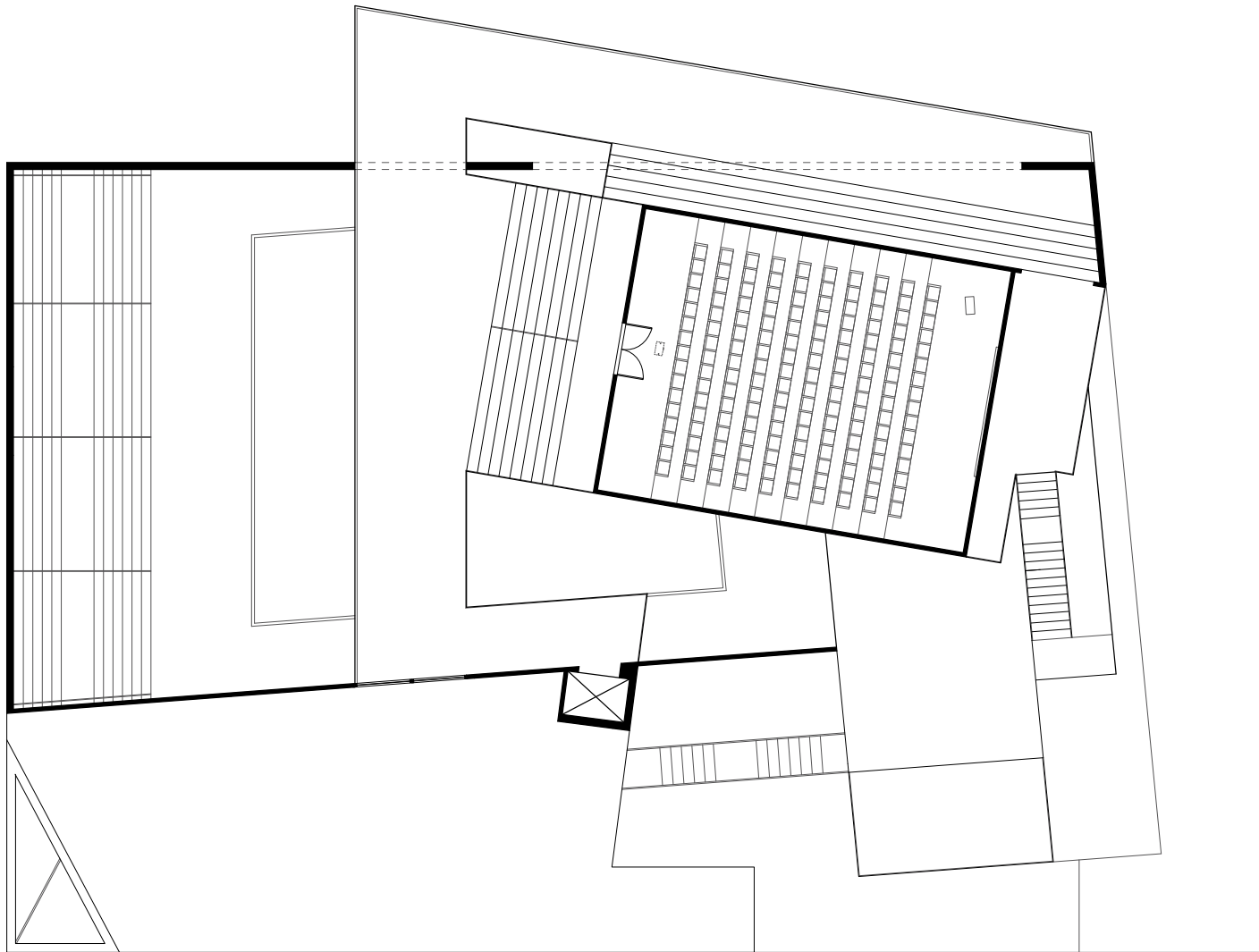


GYMNASIUM | NATATORIUM AUDITORIUM



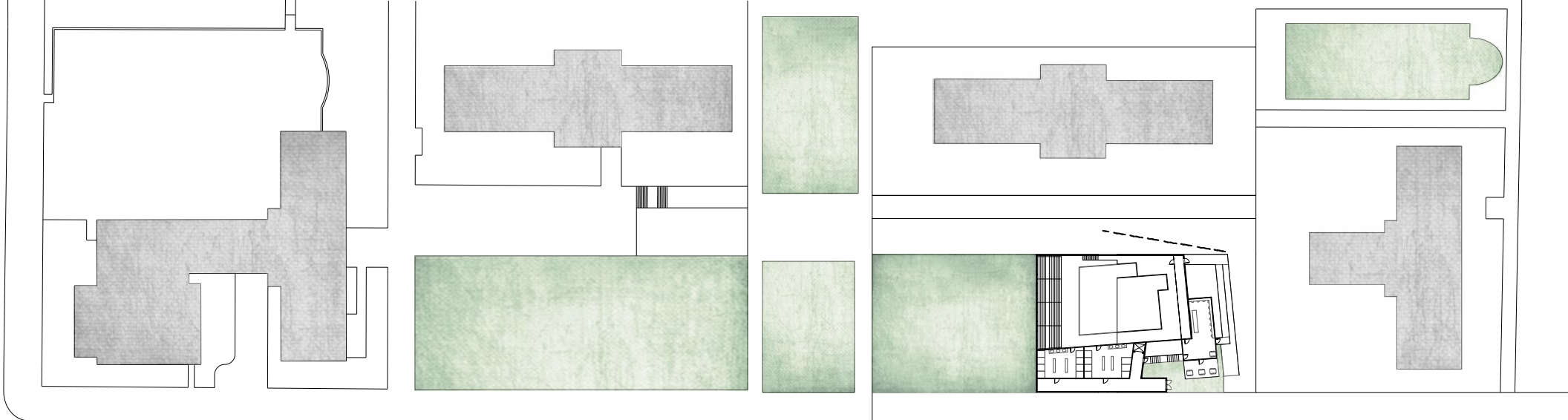


FIRST FLOOR PLAN

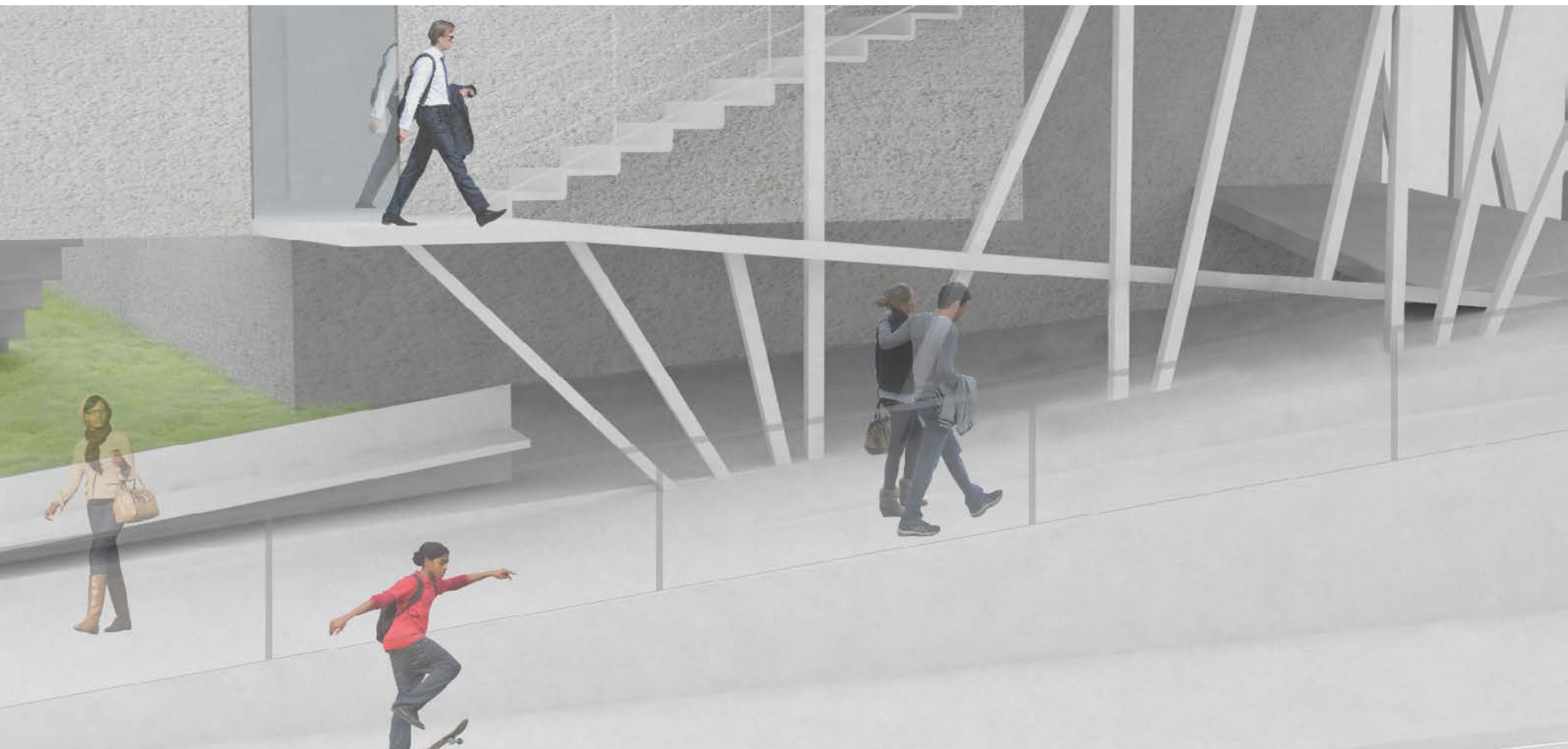


SECOND FLOOR PLAN





SITE PLAN



In the initial analysis of the urban Bronx site, isolated by infrastructure, there was a latent opportunity to create open space within the project that could provide fresh air and light to the residents. If outdoor space, a yard, were provided for every unit, what would be its nature and effects in the context of the urban landscape?

A “yard” currently exists in three major types. The first type is the suburban yard, adjacent to the living space. The second is a shared courtyard, adjacent to living spaces and directly accessible. The third type is an industrial yard, a vast often paved area reserved to produce work.

In the New York City Department of City Planning, the glossary states that a yard must be “unobstructed from the lowest level to the sky.”

Through the research of existing types, the project obtains its individuality in the juxtaposition and recombination of types, producing a fourth type of yard: a space, unobstructed to the sky, impacting closed living space, and framing the urban experience. This fourth type of yard has three major effects. It challenges existing type through placement, orientation, and dimension; it engages with living space as a light source and mode of circulation; and it creates a spectrum of visual porosity through varying degrees of enclosure.

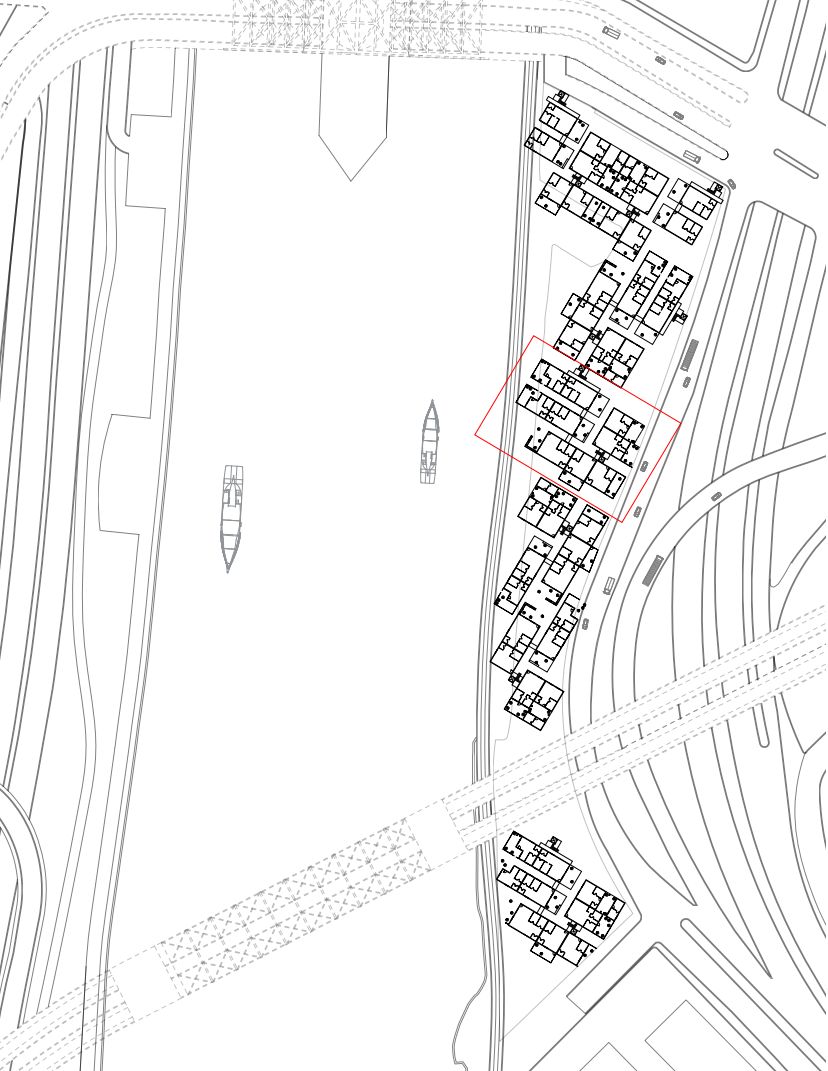
Within the parameters of this fourth type and its effects, several floor plans were generated. On a larger scale, upon the combination of these unit types, enclosure within clusters of the site allow for larger communal yards doubling as circulation. On a still larger scale, space between clusters of units create an interstitial space that acts as the site's points of entry, views of the Harlem River, and larger shared yards.



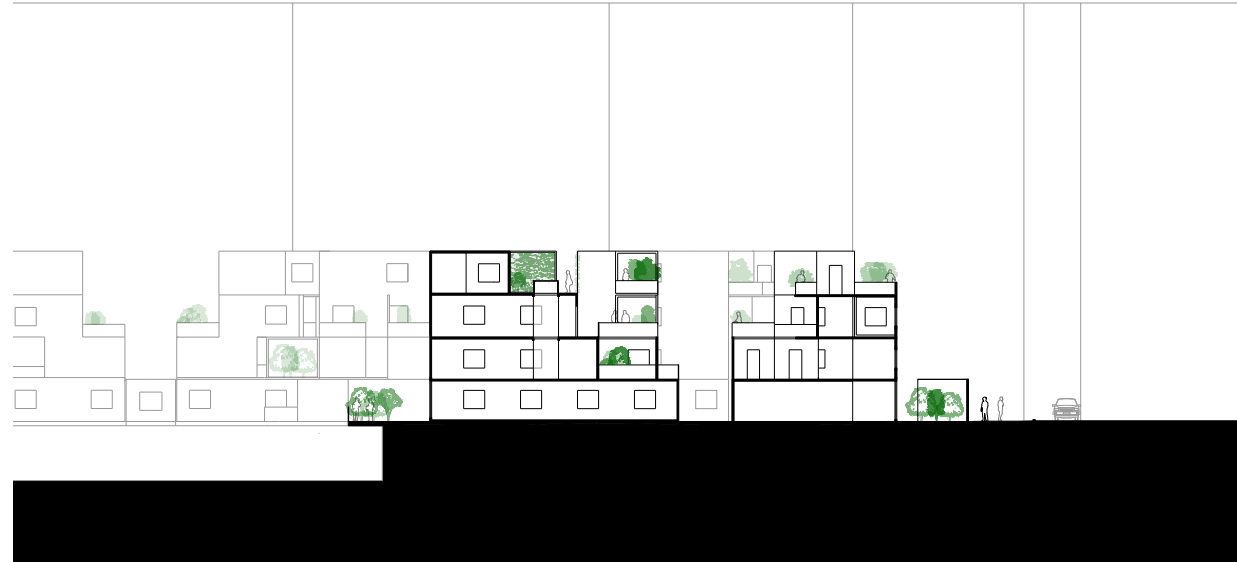
BRONX HOUSING YARDS



Collaboration with Sonya Ursell



Short Section Facing North





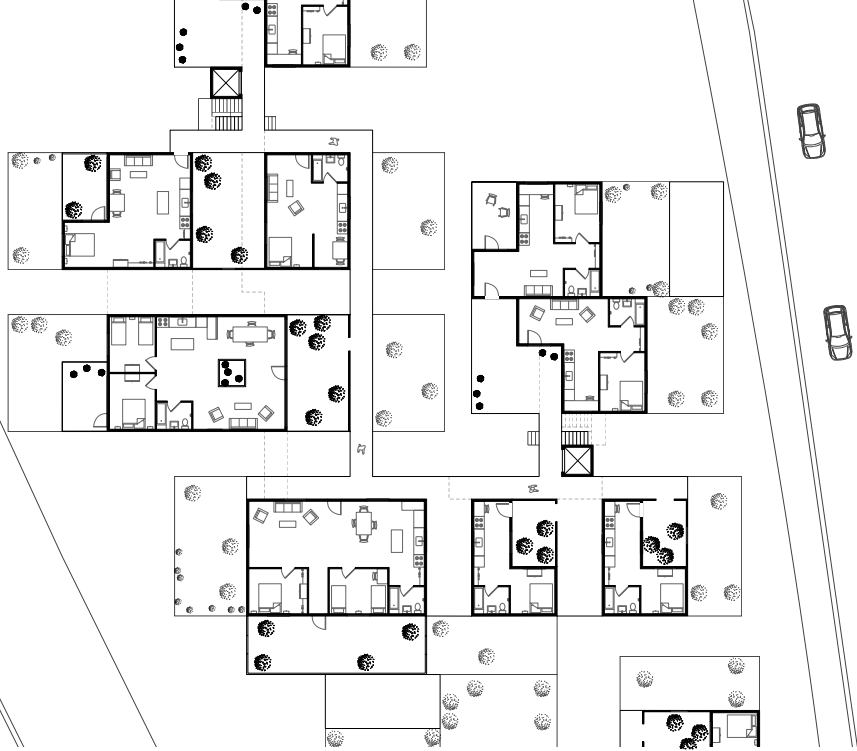
CIRCULATION YARD



BOOTH YARD



LIGHT YARD



Second Floor Plan

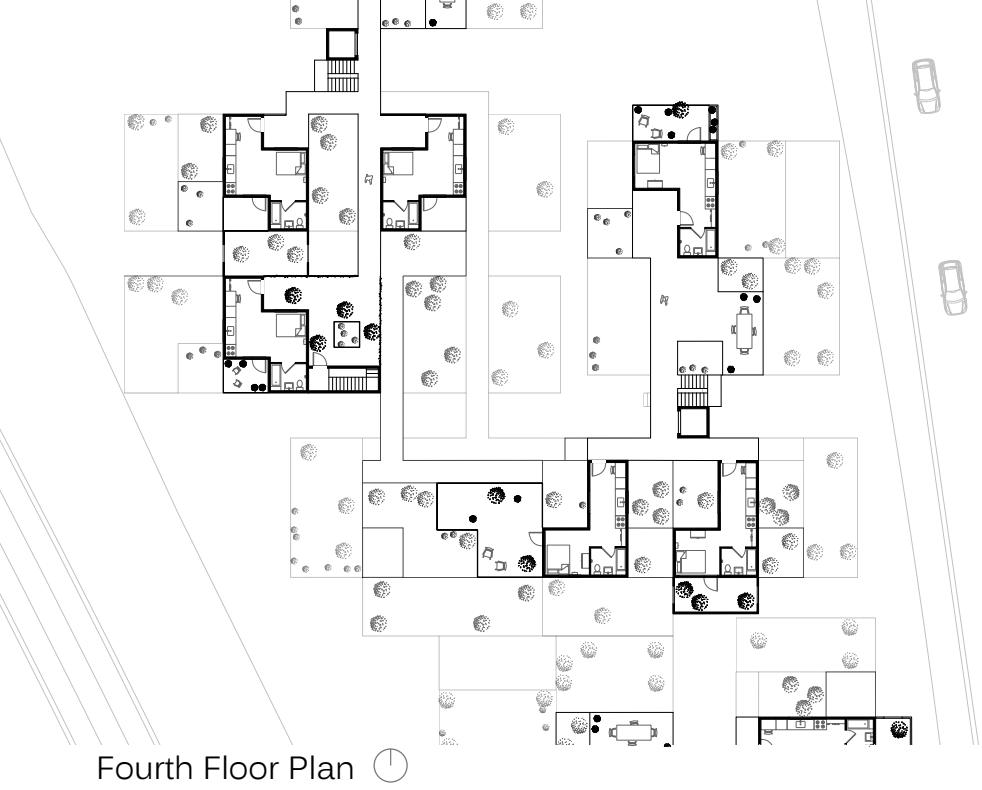


Third Floor Plan

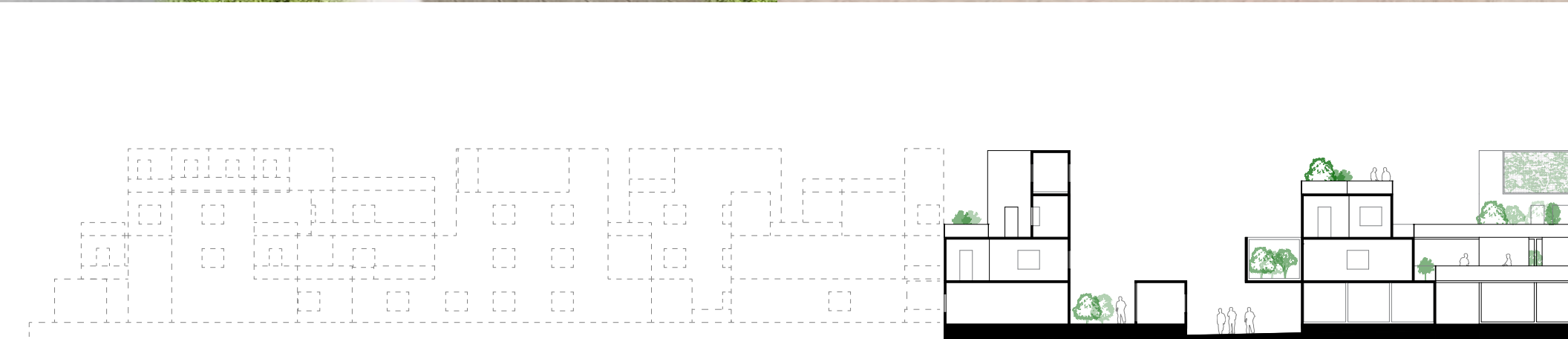




SHARED YARD









LONG SECTION



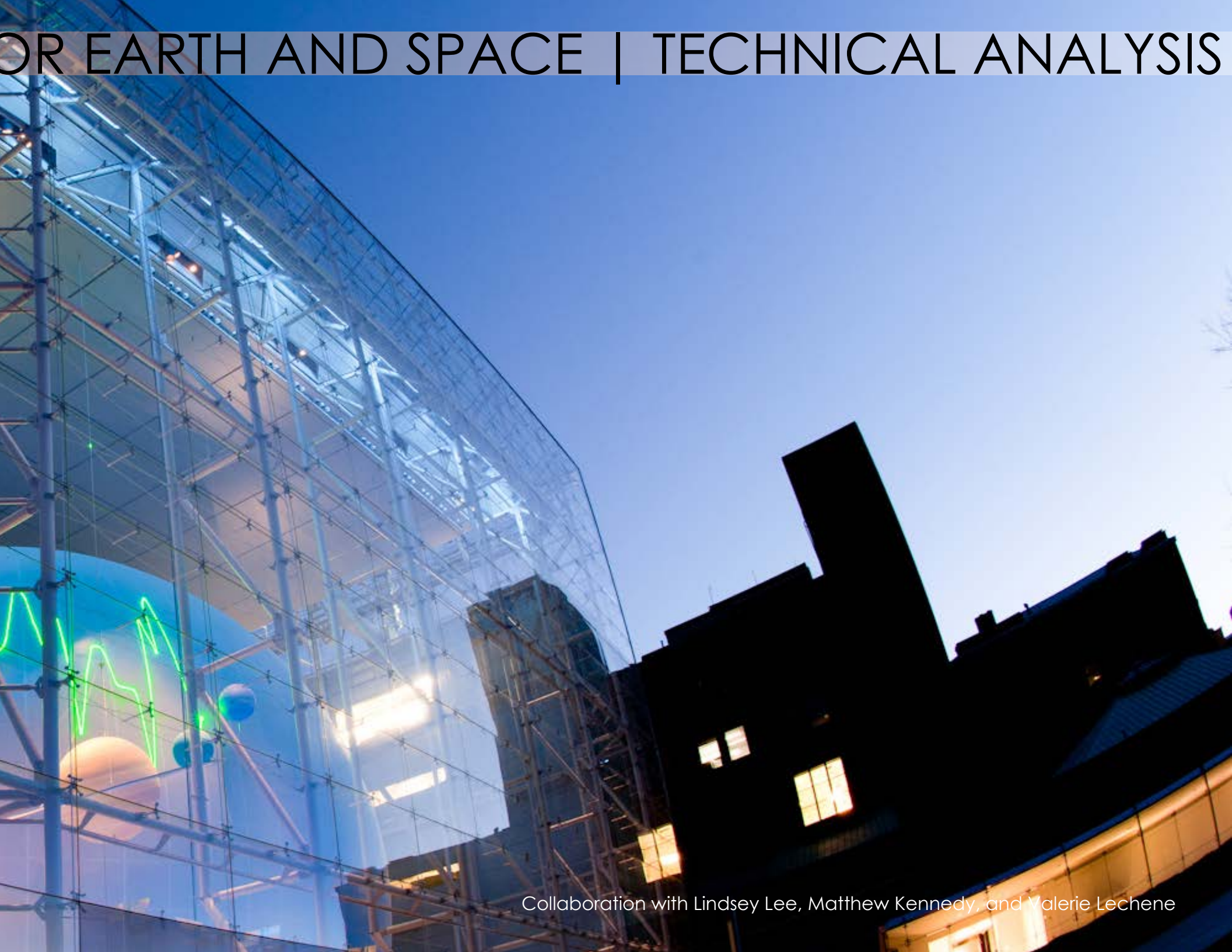
The Rose Center for Earth and Space emerged from a more modest initial plan to renovate the old Hayden Planetarium, both to house a new exhibit, and to enable more intuitive circulation through the greater museum complex. Polshek Partnership Architects were initially involved as architectural consultants to the exhibit design team, but upon touring the premises with the museum administration, it was agreed that a more ambitious scheme would enable a more contemporary and powerful identity for the planetarium, reflecting the incredible advances in the field of astronomy since the original Hayden's completion in 1936.

Taking Étienne-Louis Boullée's unrealized Cenotaph for Isaac Newton (1784) as inspiration, Polshek proposed that the Hayden's hemispherical dome be completed by suspending the lower portion of a sphere from the existing ring of support columns. When it became clear that the Hayden's existing structure would not accommodate the hoped for expansions to program and circulation, the museum appealed to the New York City Landmarks Preservation Commission for permission to demolish, which it received in November 1995.

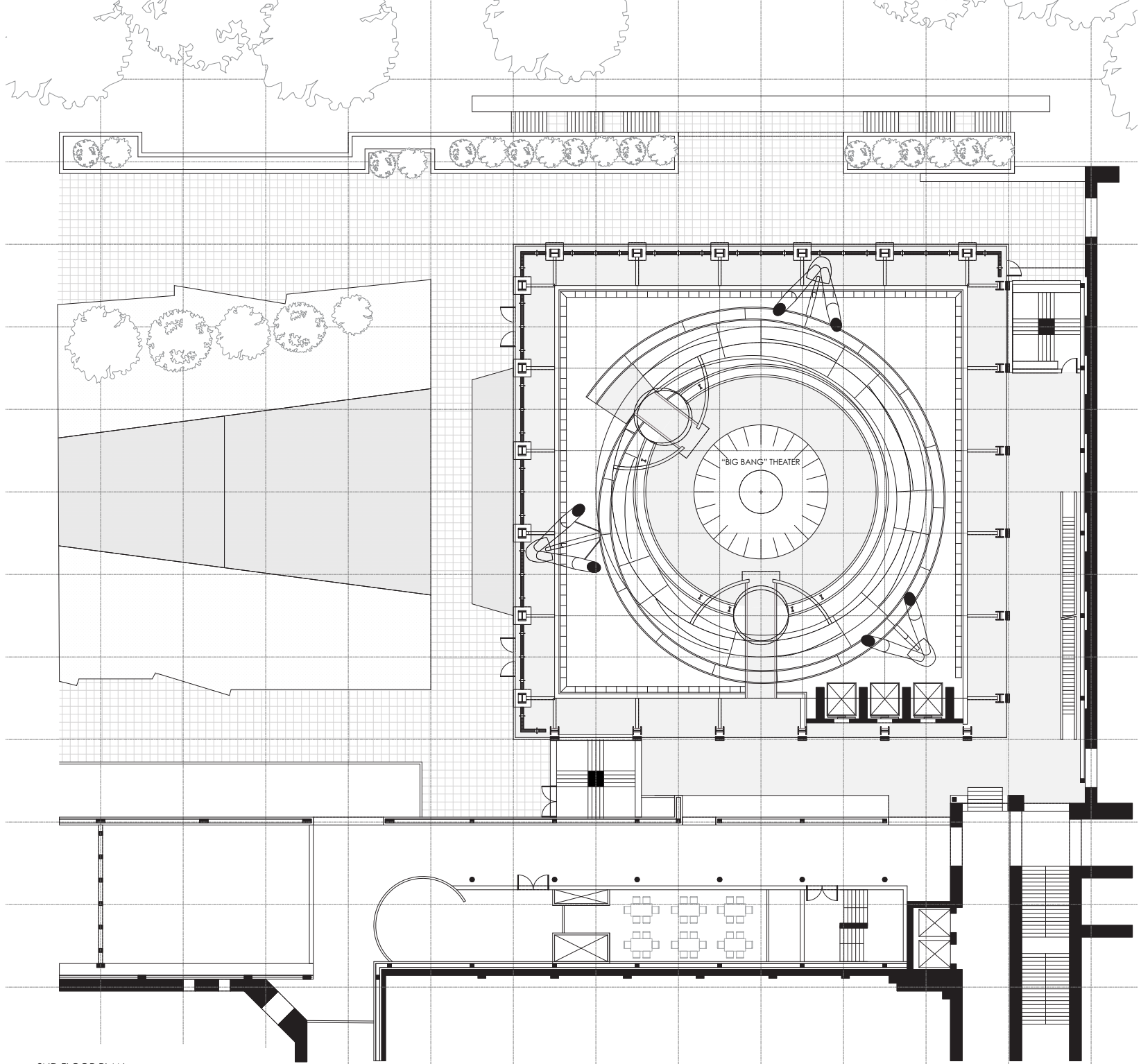
Having secured a relative tabula rasa, the architect was free to imagine a concept that both satisfied the contemporary needs of the institution and suggested the enormity of the concepts that the planetarium was meant to convey. Boullée's sphere remained a key aesthetic driver, and the design concept took on a geometrically pure form: a perfect sphere, levitating in the midst of a nearly invisible cubic enclosure, visible day and night. The key triumphs of the realized building – the unprecedented transparency and apparent lightness of its curtain wall system, and the structural ingenuity necessary to elevate its spherical theater – were direct responses to this deceptively simple parti. The Rose Center for Earth and Space opened its door in 2000, gloriously inaugurating the iconic year it represents to modern culture and the scientific pursuit of space research.



FOR EARTH AND SPACE | TECHNICAL ANALYSIS

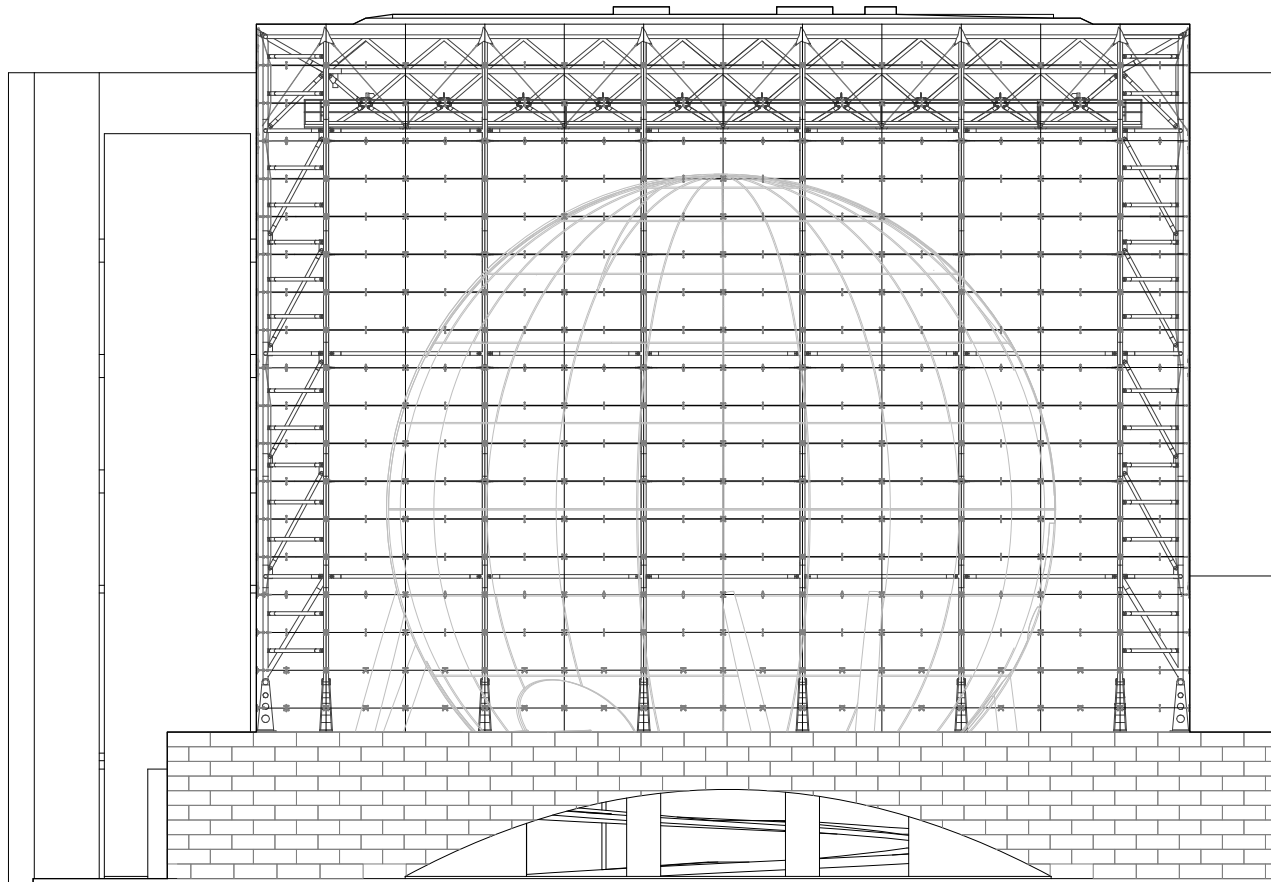


Collaboration with Lindsey Lee, Matthew Kennedy, and Valerie Lechene



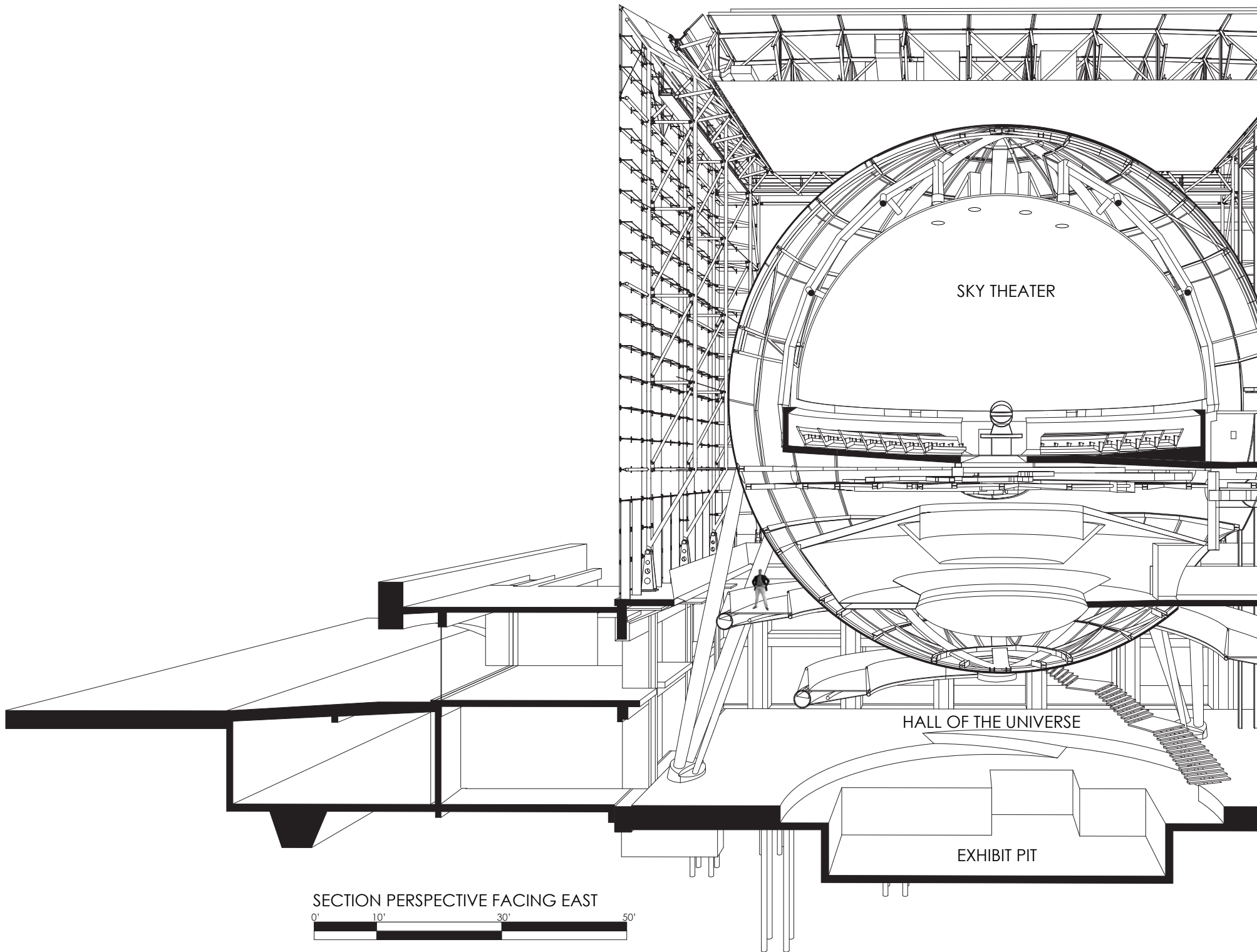
2ND FLOOR PLAN





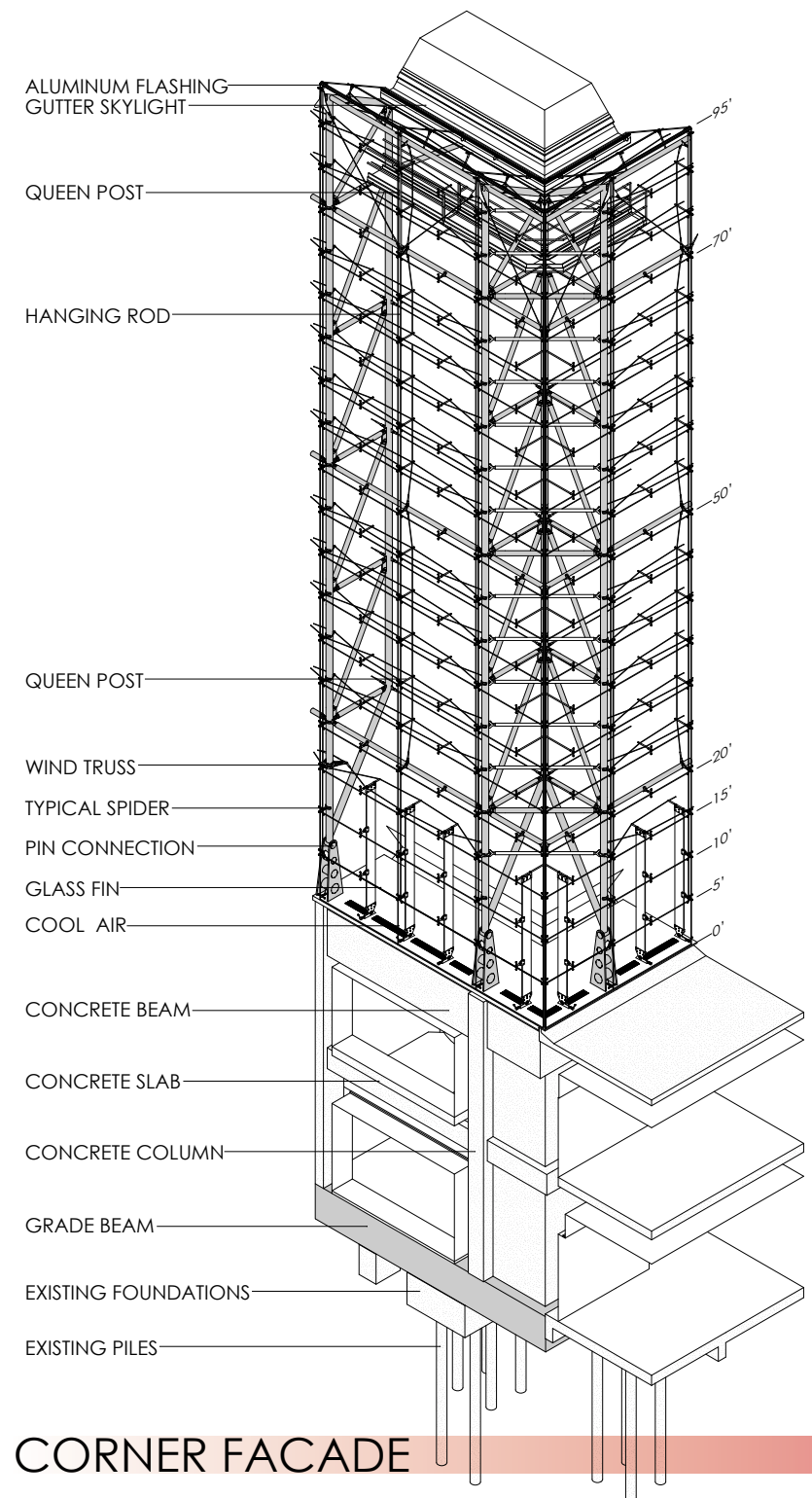
ELEVATION FACING EAST



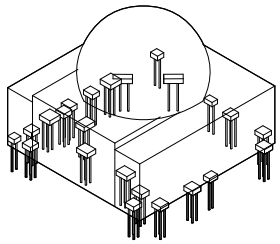


SECTION PERSPECTIVE FACING EAST

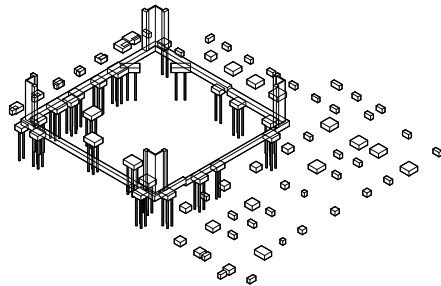




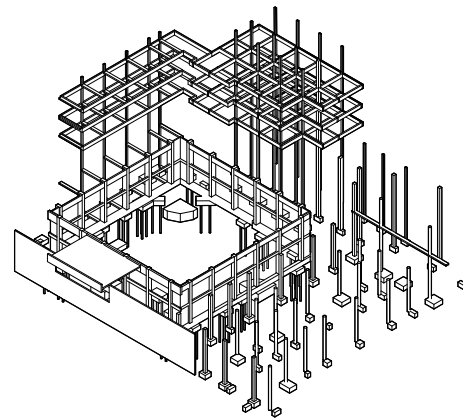
CORNER FACADE



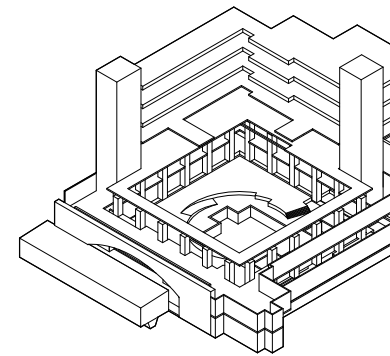
EXISTING PILES AND PILE CAPS
HAYDEN AUDITORIUM PRE-2000



GRADE BEAM RESTS ON EXISTING FOUNDATIONS
ADDITIONAL FOUNDATIONS FOR SPHERE ADDED

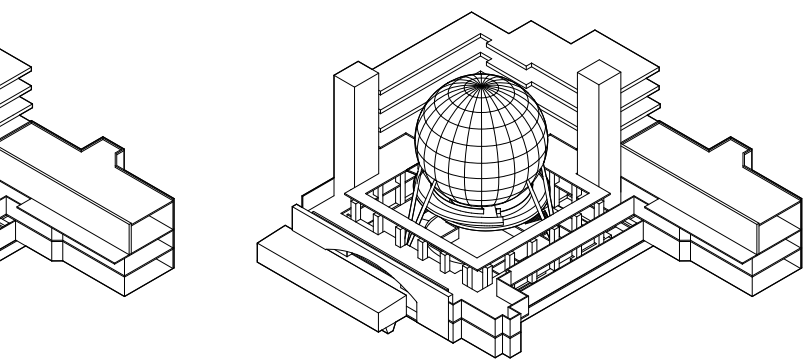


COLUMNS AND BEAMS
LOCATIONS COORDINATE WITH EXISTING

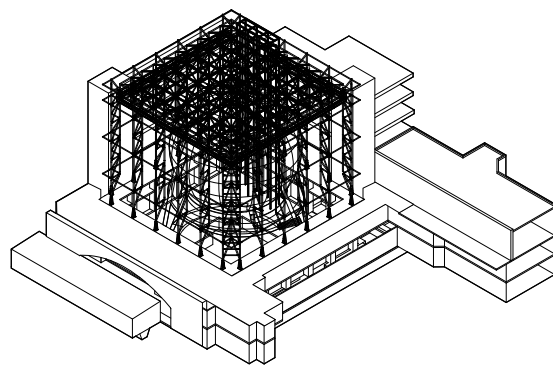


CONCRETE FLOOR SLABS
DIAPHRAGM AT BASE OF CUBE

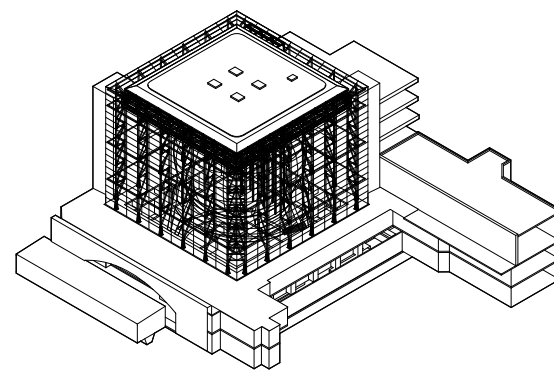
CONSTRUCTION SEQUENCE



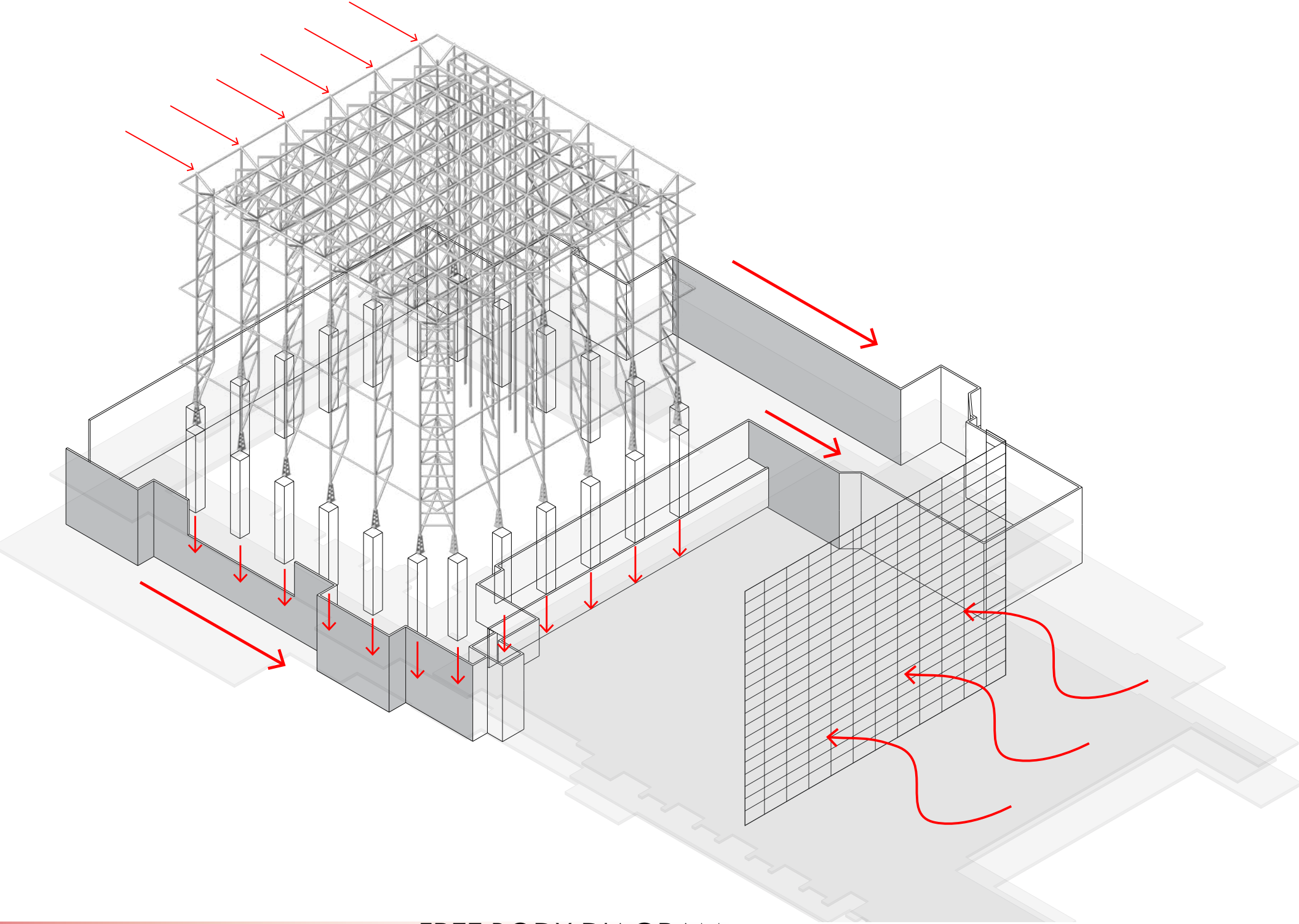
SPHERE STRUCTURE
PREFABRICATED ELEMENTS ARE WELDED



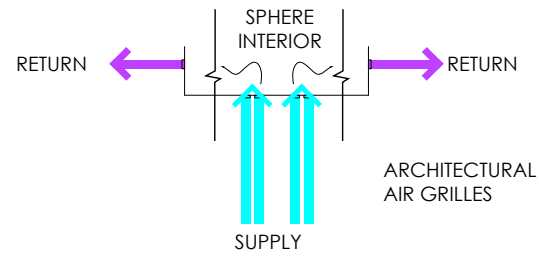
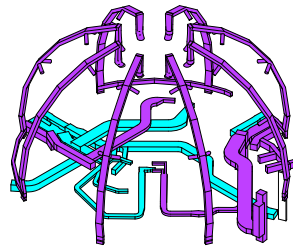
STEEL TRUSSES AND SPACE FRAME ROOF



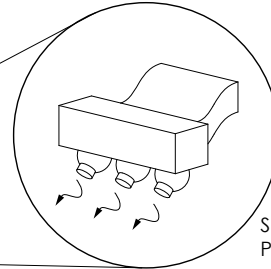
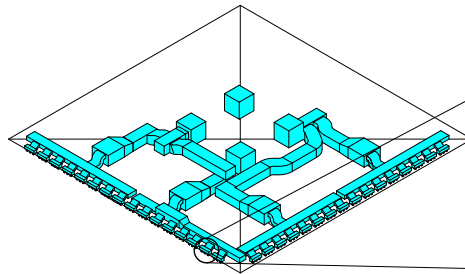
CURTAIN WALL SYSTEM
WITH SKYLIGHT AND ROOF



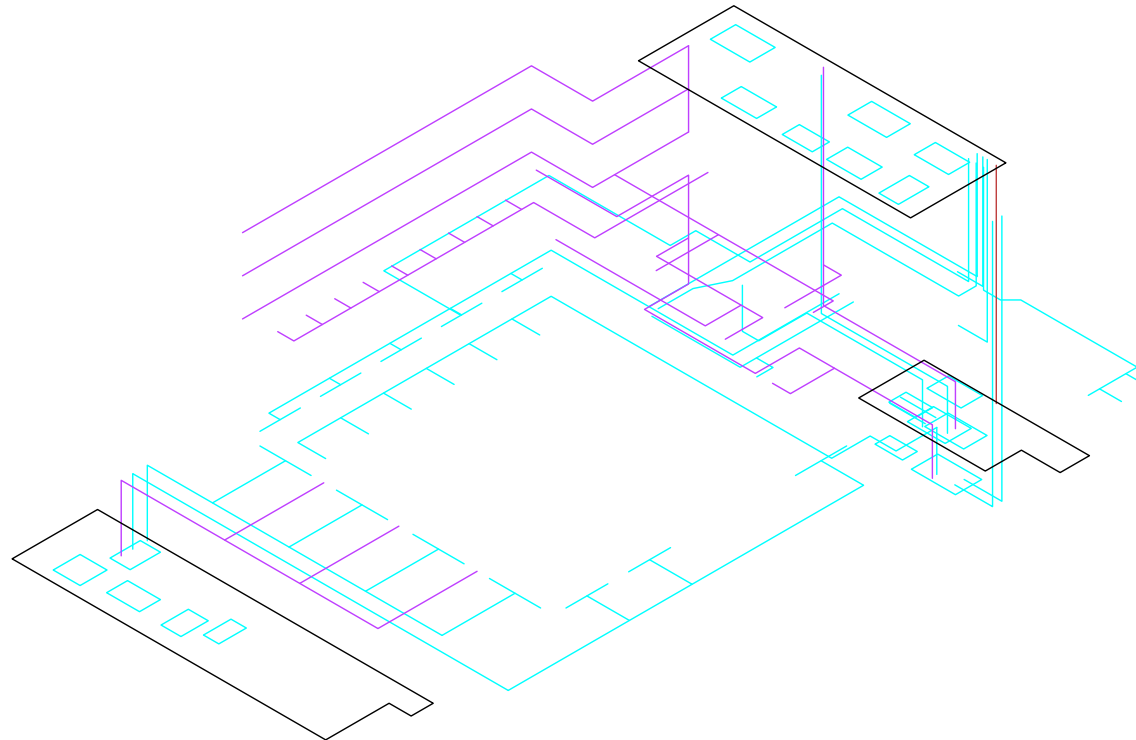
FREE BODY DIAGRAM



ARCHITECTURAL
AIR GRILLES



SPOT DIFFUSER
PLENUMS



HVAC DISTRIBUTION

FACADE ROOF CONNECTION

